



A National Resource

Ham Radio Operators are Just Ordinary People Providing Extraordinary Service to Their Communities, Their Nation and Humanity.

town of windsor

WINDSOR, CONN. 06095 • PHONE (203) 688-3675 • THE FIRST TOWN IN THE STATE • COUNCIL-MANAGER GOVERNMENT



October 7, 1979

Mr. L. E. Coburn, Director
Civil Preparedness
275 Broad Street
Windsor, Connecticut

Dear Spunky:

The key to our disaster relief effort has been the ham radio operators who have kept our communication system working. Without the assistance of hams, our whole network would break down.

Please extend to all the ham operators my personal thanks for the time, effort, skill, and patience with which they have handled this difficult task.

I know that they have now been working 24 hours per day since the disaster occurred, but I have to ask you to ask them to stay on a little longer. We will continue to need their assistance for the next few days.

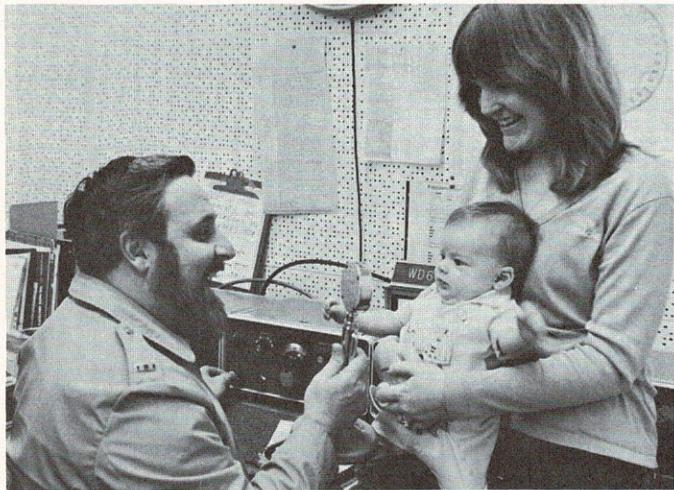
I would particularly like to ask for the cooperation of the employers of these ham operators. I know they all have regular jobs to do, but for the time being, we need the hams here helping us. I feel sure that any employer who can appreciate this situation will be willing to help us out.

Sincerely,

Warren P. Johnson

Warren P. Johnson
Mayor

Amateur Radio is A Valuable National Resource Which Should Be Vigorously Supported By Government At All Levels.



HURRY HOME, DAD

If two-month-old Anthony Nicolas Laubach could talk, that might be his message to his father, Lt. j.g. James M. Laubach, VX-6 helo pilot stationed in Antarctica. Ham operator CWO Bill McCoy (left) puts a call through from Mrs. Laubach (right) to her husband just after Tony's birth to tell him the good news.

— (U.S. Navy photo)



Wayne Keeney coaches Scott LaBarre in the art of sending Morse code. Both hams are blind.

— (Photo courtesy Courage HANDI-HAM)



Public service communication has been a traditional responsibility of Amateur Radio since 1913, when the first known emergency communication was conducted by a radio amateur.

— (Photo by Gary Engleman)



Bernard D. Glassmeyer of the American Radio Relay League in Newington, Conn., uses slow-scan television to view Voyager 2 photos of Saturn sent from the Jet Propulsion Laboratory in Pasadena, Calif. The photos were retransmitted to ham radio operators worldwide by members of an Amateur Radio club at JPL moments after scientists there received the images from space.

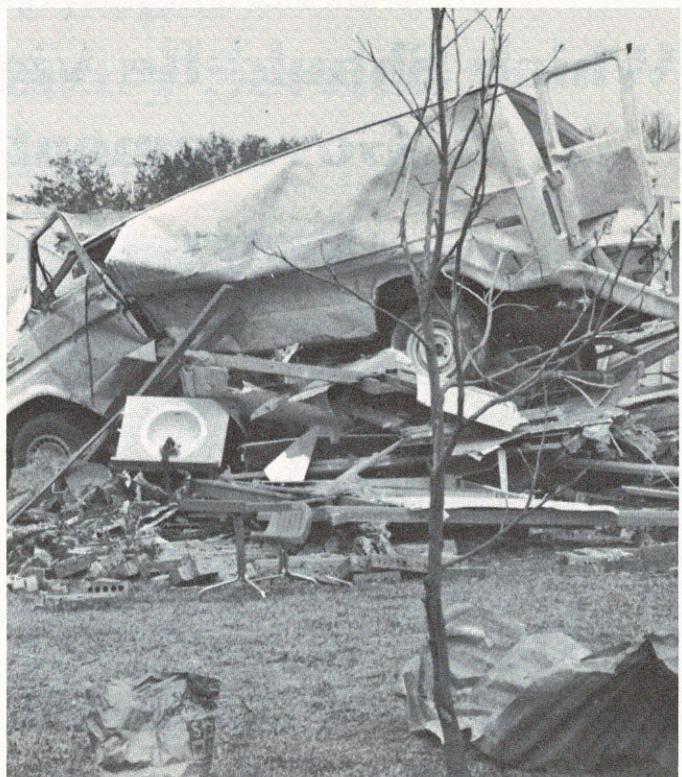
— (Herald photo - Lee)

Hams Pick Up The Pieces

Ham radio operator Mike Gray had followed the storm that flattened Paris, TX, across three counties before it unleashed its fury on the defenseless community. He kept in touch with other hams through his mobile ham radio transceiver (combined transmitter and receiver).

Other amateurs relayed Mike's messages about the weather to the National Weather Service (NWS), who in turn contacted local officials, such as Dick Boots. As the storm moved into Lamar County and headed for Paris, Amateur Radio Emergency Service (ARES) reached a stage of full alert. Along the way, Metz Shatley, another Radio Amateur, joined with Mike. After the Paris touch down, Mike and Metz stopped following the storm and established an emergency communications link between Paris and the world.

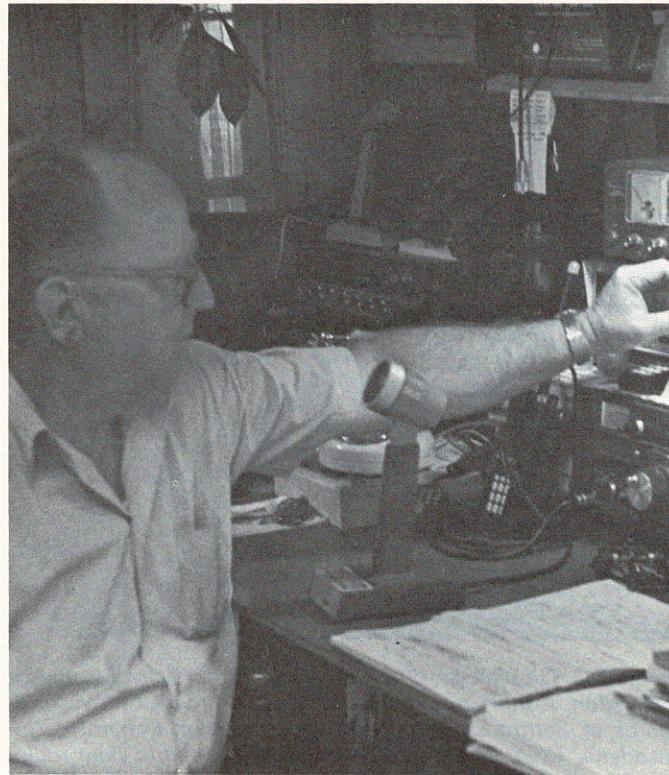
For two hours immediately after the storm, Mike and Metz provided the only communications link out of Paris. Mike manned the radio while Metz acted as a runner between the police and Mike. Other ham radio groups throughout North Texas swung into action. Emergency operation centers in Dallas, Ft. Worth, Paris and the state capital of Austin were linked together with an Amateur Radio communications circuit. Additionally, Radio Amateurs established and maintained a circuit for state police communications between Paris and Dallas. A dozen hams from the Garland Amateur Radio Club arrived volunteering their services and offering the use of their portable repeater. (A repeater is an automatic retransmission station that extends the effective range of and makes for reliable com-



Truck rests atop rubble that had once been a single family residence in a normally quiet, well kept section of Paris, TX.

munications between hand-held portable transceivers.)

That night hundreds of outgoing messages were sent for families in the affected area.



Terrell, TX, Amateur Radio operator Jack Ledbetter relays messages to and from Paris disaster site after the tornado destroyed hundreds of homes and killed nine.

When Air Florida Flight 90 crashed into the Potomac, Ham Radio operators were on the scene within minutes providing invaluable assistance during the hours of delay waiting for "regular" emergency communications to be set up.

Jim Stone rushed to his station in his home and called the Alexandria Amateur Radio Emergency Service Network into session. Many ARES members were already on frequency standing by for the call to duty. By 5:30 Stone had assigned ARES members to provide communications at the various local hospitals that were expected to be caring for survivors.

The group had permanently mounted Amateur Radio antennas throughout Alexandria at locations likely to need emergency communications. Most importantly, the Alexandria ARES had installed an Amateur Radio station in the Fire Department Tactical Communications vehicle.

Officials on the spot needed access to the telephone system. To that end, the Fire Department's communication bus is equipped with hardware to connect with four telephone lines. But it would be hours and hours before the phone company could provide the lines to connect the bus

to the telephone system. What could they do?

Amateur Radio operators came to their rescue with the ham's repeater stations.

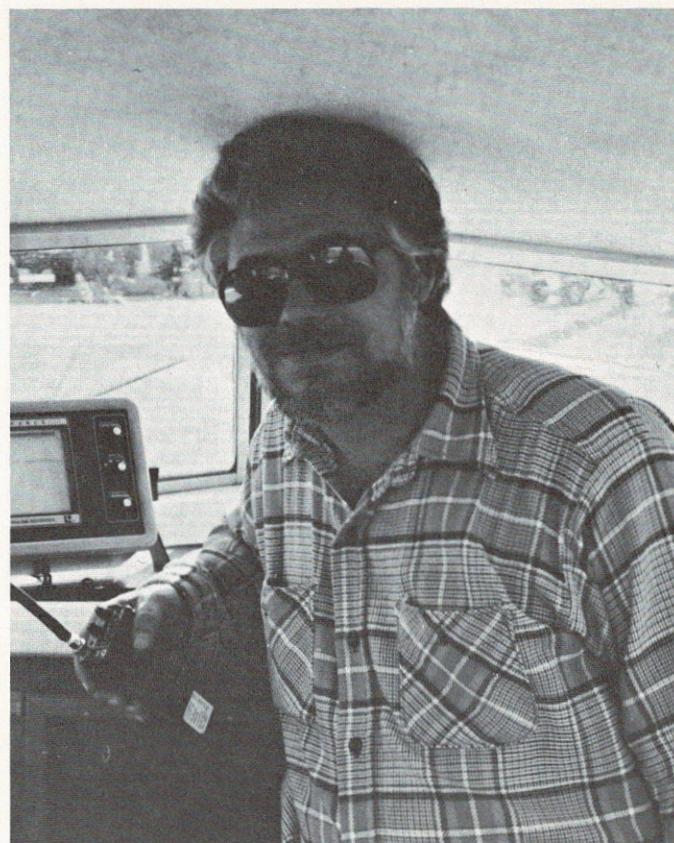
Many Amateur Radio repeaters are equipped with auto-patch facilities. Autopatches automatically tie the radio receiver and transmitter of the repeater station directly to the telephone lines. Using portable or mobile equipment with Touch-Tone® pads installed, hams are able to place telephone calls through their repeater stations.

For several hours hams placed telephone calls for officials through the Mount Vernon Amateur Radio Club repeater. They served, among others, officials from the Alexandria Fire Department, the National Transportation Safety Board, the District of Columbia Police Department, the Army and the Coast Guard. Meanwhile, other hams were using the Alexandria Amateur Radio Club repeater to keep officials in touch with each other.

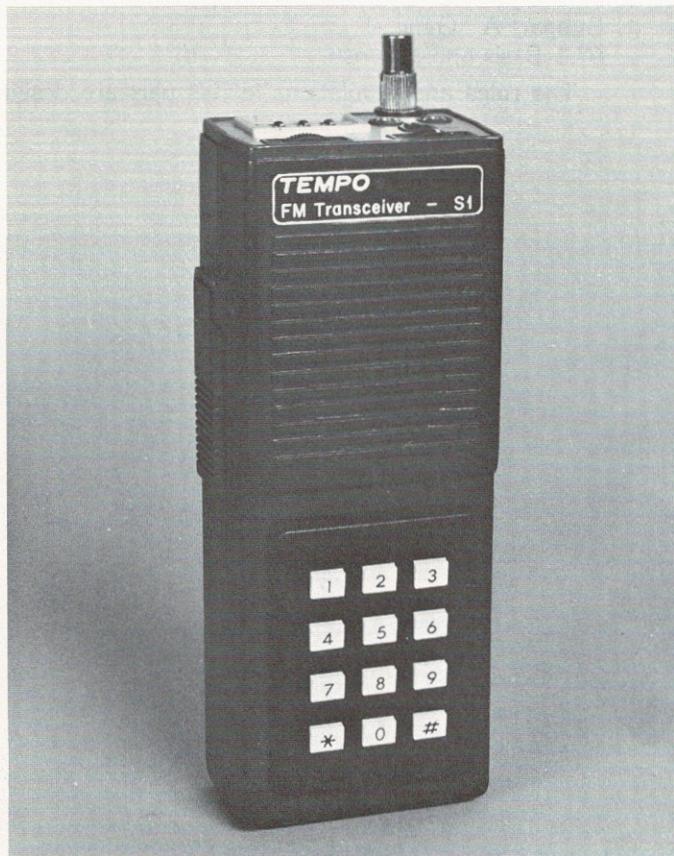
— · · · —

A ham's ingenuity saved Flint, MI, and the local sheriff's department thousands of dollars when they were searching unsuccessfully for a submerged car that had skidded onto a frozen lake surface during the winter, plunged through the ice and been lost until the Spring thaw. A ham on the scene asked the chief diver why they were not using more sophisticated electronics. They didn't have any or know anyone who did have the devices needed. But the ham did.

By 4:30 the next morning, Larry Kirk, a local ham with a boat and chart recorder was on his way to Lake Fenton.



Larry Kirk keeps in touch with other searchers using a hand-held Amateur Radio transceiver during the operation. The depth finder display is next to his arm.



A typical portable transceiver with a Touch-Tone® pad installed. Units like this permit hams to place telephone calls through repeater stations.

When the divers began arriving at 6:00, Larry had the boat in the water, had discovered some minor malfunctioning of the depth finder, and had troubleshooted and repaired it.

Larry's skill in reading the chart resulted in six main target areas for the divers to check. By 1:30 that afternoon, the divers had located the body and car at one of the target areas.

Across America many communities have discovered the benefits of maintaining close ties with local ham radio operators. The Amateur Radio operator, free to experiment with equipment and antennas, often develops expertise with all sorts of electronic gadgets. The Amateur Radio operator, free to make repairs and modifications to his equipment, often becomes adept at improvising field repairs. The Amateur Radio operator, free to communicate across town or around the world, often knows "the right people" in an emergency. In this day and age of financial difficulty, what town can turn its back on such a valuable resource?

Erecting Antennas for Ef Advancing Comm Learning Pract Penetrating the Myst Ham Radio is



Amateur Radio is a hobby shared by men, women, boys, and girls of nearly all nations in all parts of the world. We participate in this hobby because it's fun, it's educational, it's challenging, it's an opportunity to serve the public at large, and it enables us to enjoy a fellowship of sharing and understanding between individuals and peoples of all cultures.

Hams, as the amateur radio operators are called, are licensed in the U.S. by the Federal Communications Commission to operate radio transmitters of different types in different modes of transmission. This privilege is not given lightly or without just cause. It is granted in exchange for a high level of technical knowledge and understanding of FCC rules and regulations, as demonstrated by passing an examination administered by the FCC. This examination, however, does not justify this privilege. It is justified because it serves the public. This "service" is the amateur radio charter as stated in the FCC rules and regulations.

Subpart A - General
97.1 Basis and purpose.

The rules and regulations in this part are designed to

Effective Communications. Communications Skills. Technical Electronics. Series of the Universe. Satisfaction!

provide an amateur radio service having a fundamental purpose as expressed in the following principles:

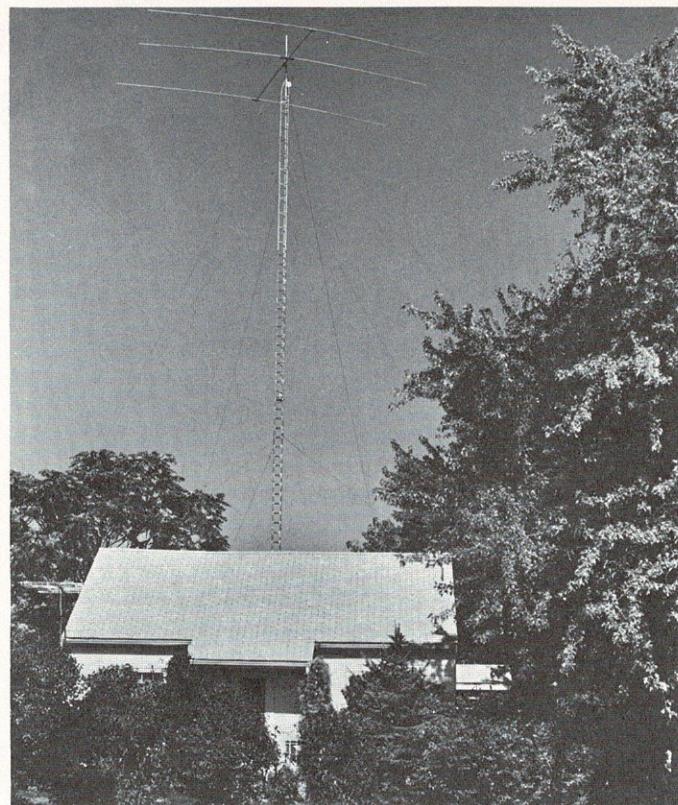
(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur radio service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

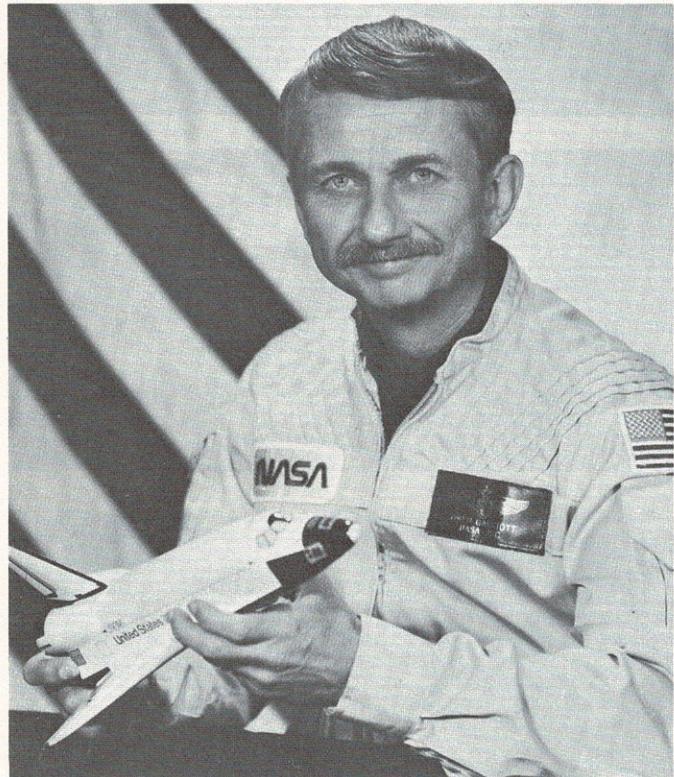
(e) Continuation and extension of the amateur's unique ability to enhance international good will.



Teenage Ham Sets Course for the Stars and Becomes an Astronaut

In Enid, Oklahoma, the main thoroughfare is "Owen Garriott Street." Enid is as proud of its astronaut as he is of his home town. Garriott feels strongly that Enid gave him the training and inspiration to become what he is today — and Amateur Radio played a prominent role.

During the war years of the '40s, when Owen was in junior high school, his father came home with the news that the Enid Amateur Radio Club was starting a code class. Father and son began taking lessons. A few months later, the club offered classes in the theory and practice of radio, and the Garriots kept right on studying. They went to the Federal Communications Commission (FCC) to take the test for an amateur license, and both of them passed. Owen Garriott, Sr., became W5KWQ; Owen K. Garriott, the future astronaut, got the call W5LFL.



Owen's first station was "homebrew" tube equipment. His antenna was a wire strung from a bedroom window to the garage.

By the time Owen graduated from high school, his interest in radio had set him on course for college. He earned a BSEE degree from the University of Oklahoma (1953) and an MSEE degree (1957) and a PhD (1960) from Stanford, where he taught electronics, electromagnetic theory and ionospheric physics as an associate professor. Later, he was presented with an honorary doctorate from Phillips University in Enid. Owen has authored or coauthored more than 30 scientific papers and a book mostly on ionospheric

physics. He remains a consulting professor at Stanford.

As an electronics officer in the U.S. Navy from 1953 to 1956, Owen saw duty at sea on several destroyers. Also, he has logged more than 4300 hours of flying time, including more than 2500 hours in jets.

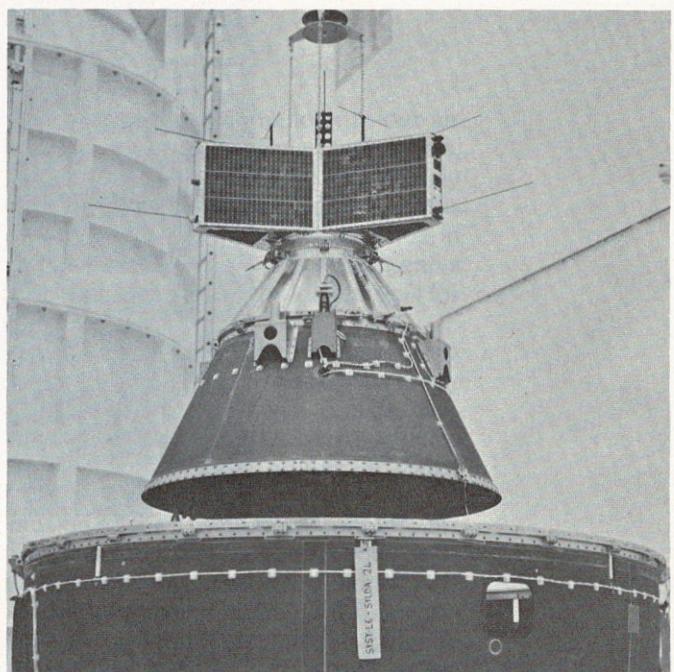
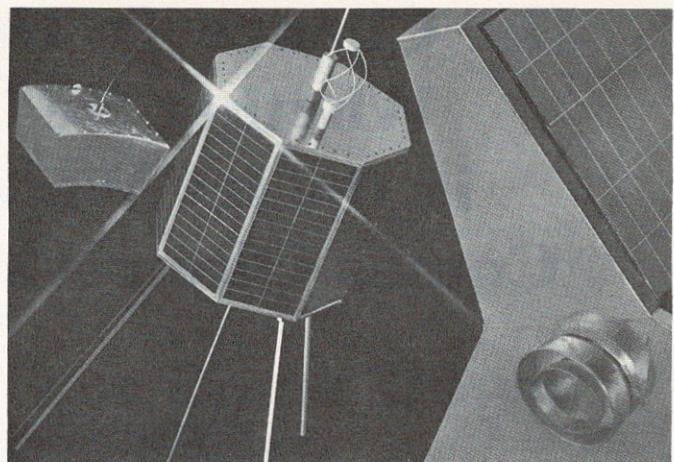
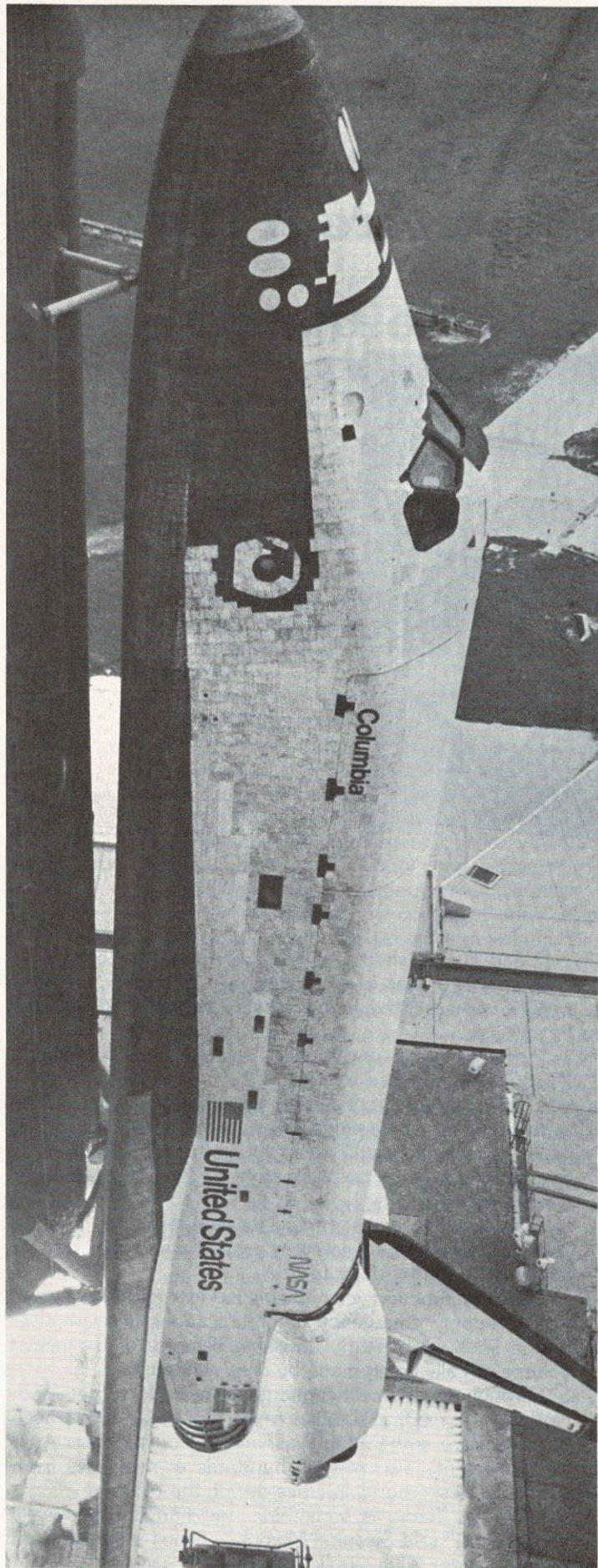
In June 1965, NASA elected Owen as a scientist-astronaut. As scientist-pilot aboard Skylab 3, he was in orbit from July 28 to September 25, 1973, logging 1427 hours and 9 minutes in space. Owen also spent 13 hours and 43 minutes in three separate spacewalks outside the orbital workshop. He tried to get permission to carry Amateur Radio equipment on that flight, but NASA management turned down the request.

After Skylab, Owen and fellow scientist-astronaut Robert Parker worked as mission specialists, preparing for the



Spacelab 1 flight aboard the Space Shuttle Orbiter Columbia (STS-9). When NASA decided to allow him to operate his Amateur Radio station on that flight, Owen says it was a dream come true — the achievement of a project that had been on his mind since he first became an astronaut.

In his 53 years, Owen Garriott has received many honors, among them the Collier Trophy, the Goddard Memorial Trophy and the NASA Distinguished Service Medal — special honors awarded to a man who has pioneered the techniques of space. And one of his proudest possessions is the Amateur Radio License that reads, "Owen Garriott, W5LFL."



OSCAR

OSCAR is the name given to a series of satellites designed and built by Amateur Radio operators from several nations of the world. There are ten OSCARs (Orbiting Satellites Carrying Amateur Radio) in the series. The first OSCAR was put into orbit in 1961, just four years after Sputnik 1 brought the world into the space age. OSCAR 1 was the world's first non-governmental satellite, designed and built by a group of volunteer Amateur Radio operators from California.

The most recent OSCARs were designed and constructed under the supervision of AMSAT (the Radio Amateur Satellite Corporation), a non-profit scientific organization in Washington, D.C. Amateur Radio operators from many countries, including Australia, West Germany, Canada, the U.S. and Japan have contributed time and materials, making the satellites a truly international effort.

Hundreds of teachers around the country have found that demonstrating real-life applications of their course materials via the Amateur Radio satellites is a most effective motivational technique to involve even the most reluctant student.

The Chance To Help Your Fellowman, Whether He be Next Door or in the Icy Waters of Antarctica, Comes Often When You Are A Ham.



For the past 60 years, Jerrold A. Swank of Washington Court House, Ohio has been looking for trouble. And he's found plenty of it.

Swank, 77, an Amateur Radio operator for over seven decades, has logged more hours in his hobby than most people do in a professional career — many of them handling emergency communications in some of this century's worst disasters.

In 1969, during Hurricane Camille, which Swank described as the "worst hurricane in the history of the United States," he relayed calls from a ham radio operator named Gerry who was sitting in a Volkswagen in the middle of the hurricane, taking messages from water-soaked victims who came to his car.

"The wind blew out his windshield," Swank remembered, "but Gerry stayed and handled messages for people who came up to his car." Gerry passed them on to Swank who, in turn, passed them on to a ham network especially organized for emergencies.

"We handled over 100 messages that night," Swank said, adding he recalled one in particular that was directed to a soldier who was stationed in Vietnam at the time: "We are all fine, but our house is gone. Love,..."

Swank was also the first amateur operator in the U.S. to hear the distress call, "terremoto ayuda!" ("earthquake, help!"), from Guatemala on February 4, 1976.

"I had just finished a conversation with the icebreaker *Glacier*, which was in the waters off Antarctica, and was making contact with a ham in Mexico when I heard the call," Swank said.

"There's been an earthquake," the call said. "Thousands killed. Notify the Red Cross."

A retired business consultant, Swank also was instrumental in aiding local communications during the Blizzard of '78, which virtually "closed" ever state in its path. At the time, Swank was a communications officer for a local disaster services agency.

"The response was immediate and exciting," Swank recalled. "Twenty-six amateurs checked in and offered to do whatever I wanted them to do."

Their first function when the blizzard struck, Swank said, was to supply emergency communications because telephone lines were nearly unusable because of the heavy volume of calls being made by area residents.

Through hams, arrangements were made to get food, clothing and medical supplies to the more than 1000 travelers who were stranded in Washington Court House. Area ham operators also relayed hundreds of messages from residents to surrounding cities during the blizzard.

"Amateur Radio is something not many people really understand," said Swank. "My only reason for being a ham radio operator is for public service."

Air Conditioners Always Break Down During a Heat Wave

During one summer's hot spell my wife called the repairman to come look at our air conditioner. "OK, but we can't get to it for three weeks," came the reply. Poor service? No, not really. It's rather logical that an air conditioning repair service would be inordinately busy during a hot spell. Equipment is used to full capacity at these times. A device that is marginal under a light duty cycle is likely to fail because of the rigors of the situation. Thus, in the midst of a heat wave, when the customer can least afford downtime, his equipment is most likely to fail. To compound things, that is the time when he will have the longest wait for repair.

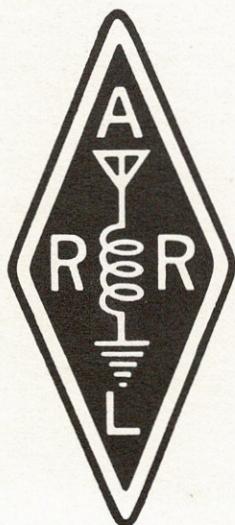
Ever wonder why Amateur Radio operators often provide the critical communications circuits during emergencies? Communities find themselves in a situation analogous to my wife's. Under normal conditions public service communications systems (police, fire, ambulance, etc.) are adequate. Occasionally, equipment malfunctions; the operator takes the radio to the local 2-way repair shop, or the repairman makes a "housecall." Such downtime is usually of little consequence.

Then comes the emergency. What happens? Confusion reigns. Communications circuits may approach a 100% duty cycle. Frequently, inclement weather and associated power and telephone outages compound the difficulties. The weak link begins to fail. Who picks up the pieces? No matter how dedicated and selfless the radio repairman is, he can't be everywhere at once. Who provides communications while the community waits for things to return to normal?

Amateur Radio operators are waiting in the wings for just such occasions. The operator is the repairman. If a fuse blows, the ham knows how to replace it. If a wire breaks, the ham knows how to solder it together again. If an antenna falls down, the ham knows how to make one out of a coat-hanger or an extension cord. If it is a major malfunction, the ham probably has a backup "rig," or, at least, can borrow one from a friend. Amateur Radio operators participate in Field Days and contests periodically, subjecting their equipment to a 100% duty cycle for up to 48 hours at a time — that weeds out the weak links. Hams experiment with alternate sources of energy (e.g., solar, wind, etc.). Money can't buy that kind of preparation, because the ham is having fun.

It is a social contract between society and the Amateur Radio Service. Society gives the hams a few small segments of the radio spectrum to "have fun with." All the time the hams are having fun, they are preparing for the day when they pay back society tenfold. Air conditioners usually break down during heat waves.

The American Radio Relay League (ARRL): ARRL was established by radio amateurs more than 65 years ago, with Hiram Percy Maxim, noted inventor, as founder and first president. It functions today through a Board of Directors elected by members in 16 U.S. and Canadian geographic divisions, and a headquarters with a staff of about 120 in Newington, Connecticut. ARRL is also the headquarters for the International Amateur Radio Union (IARU), which is made up of similar societies in over one hundred countries around the world. ARRL publishes a monthly technical journal, *QST*, an annual *Radio Amateur's Handbook*, and many other more specialized publications on all aspects of Amateur Radio. It operates a headquarters station which transmits daily code practice sessions and informational bulletins of interest to amateurs. It maintains an active technical information service, coordinates an extensive field organization, and is the representative body for U.S. amateurs with the FCC and other government agencies, here and abroad.



**American Radio Relay League
225 Main Street
Newington, Connecticut 06111**